

### Amendments to the Claims

This listing of claims will replace all prior versions, or listings, of claims in the application.

### Listing of Claims:

1. (currently amended) A process for measuring surface reflectance  $[[(\hat{r})]]$  of an object of interest in a set of image data  $[[i]]$  said process comprising the steps of:
  - collect the set of image data  $[[i]]$  which contains the surface reflectance of the object of interest as well as additive noise caused by variations in illumination and an atmospheric effects set;
  - make an estimate of the additive noise  $[[a]]$  in the set of image data;
  - process the image data in a high pass filter to remove the estimate of additive noise  $[[a]]$  from the set of image data  $[[i]]$  and getting thereby a processed image set  $[[rm]]$ ;
  - ~~Use~~ use a Discrete Cosign Transform (DCT) on the processed image set to estimate an amount of image signal lost due to the atmospheric effects set ~~est~~  $(rm)$ ;
  - add the estimate of image signal lost to the processed image set to get a sum reflectance estimate; and
  - process the sum reflectance estimate with a multiplicative noise only algorithm to obtain thereby the surface reflectance  $[[(\hat{r})]]$  of the object of interest.
2. (currently amended) A process, as defined in claim 1, wherein said collection step is performed using image sensors that detect image data in a form of pixel spectral vectors  $[[x]]$  and which output an image  $(i)=rm$  where  $r$  equals the surface reflectance of the object of interest and  $m$  is a multiplicative noise spectrum.
3. (original) A process, as defined in claim 2, wherein there are  $N$  channels of pixel spectral vectors  $\{x\}$  that are rotated into a  $\log m$  principle component (PC) space to produce a rotated ensemble set  $\{y\}$ .

4. (original) A process, as defined in claim 3, wherein image formation of the object of interest is elicited by performing a Hadamard product of the rotated ensemble set {y}.